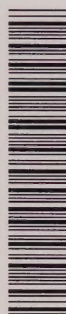



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CANADA/NEW BRUNSWICK SUBSIDIARY AGREEMENT  
ON INDUSTRIAL INNOVATION AND TECHNOLOGY DEVELOPMENT

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THIS AGREEMENT made this 28th day of May, 1986.

BETWEEN:

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THE GOVERNMENT OF CANADA  
(herein referred to as  
"Canada"), represented by the  
Minister of Regional Industrial  
Expansion and the Minister of  
State for Science and  
Technology,

OF THE FIRST PART,

AND:

THE GOVERNMENT OF THE PROVINCE  
OF NEW BRUNSWICK (herein  
referred to as "New Brunswick")  
represented by the Premier of  
New Brunswick and the Minister  
of Commerce and Development

OF THE SECOND PART.

WHEREAS Canada and New Brunswick have entered into an  
Economic and Regional Development Agreement (herein referred to  
as "the ERDA"), dated April 13, 1984, to achieve the objectives  
summarized as follows:

- (a) to ensure that the Province as a whole achieves a  
faster rate of growth of provincial output through  
increasing the number of viable long-term employment  
opportunities and increasing productivity or output per  
worker;
- (b) to lessen the vulnerability of the New Brunswick  
economy to international and national cyclical  
downturns; and
- (c) to ensure that each region of the Province and in  
particular those regions in which economic disparities  
are especially pronounced makes its maximum potential  
contribution to provincial economic growth given its  
relative economic strengths.

AND WHEREAS science and technology, particularly  
industrial innovation and technology development, has been  
recognized as a strategic priority for the development of the  
New Brunswick economy;

THE GOVERNMENT OF CANADA  
has been pleased to be  
"honoured" to receive by the  
Minister of National Health  
and the Minister of  
Health the following  
technology.

OF THE FIRST PART,

THE GOVERNMENT OF THE PROVINCE  
OF NEW BRUNSWICK (herein  
referred to as "New Brunswick")  
represented by the Minister of  
Health and the Minister  
of Commerce and Development

OF THE SECOND PART,

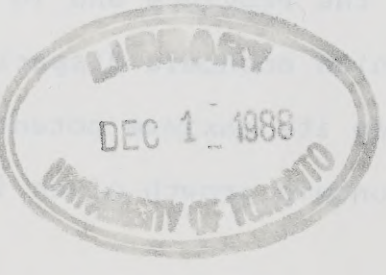
WHEREAS Canada and New Brunswick have entered into an  
Economic and Regional Development Agreement (herein referred to as  
the "Agreement"), dated April 13, 1984, to achieve the objectives  
enumerated as follows:

(1) to ensure that the Province as a whole achieves a  
faster rate of growth of provincial output through  
increasing the number of viable long-term investment  
opportunities and increasing productivity in output per  
worker;

(2) to lessen the vulnerability of the New Brunswick  
economy to international and national cyclical  
downturns; and

(3) to ensure that each region of the Province and its  
particular inner region in which  
are especially pronounced weaknesses  
contribute to provincial economic  
relative economic strengths.

AND WHEREAS science and technology, particularly  
industrial innovation and technology development, has been  
recognized as a strategic priority for the development of the  
New Brunswick economy;





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AND WHEREAS Canada and New Brunswick, in a Memorandum of Understanding dated April 13, 1984 respecting science and technology initiatives, have made the commitment to jointly identify those science and technology areas which have the greatest priority for the attainment of New Brunswick's economic development goals and to work together to develop measures to help ensure that initiatives and advances take place in these priority areas;

AND WHEREAS the Canada/New Brunswick Economic and Regional Development Agreement Course of Action 1985-86 calls upon the Federal Minister of Regional Industrial Expansion, the Federal Minister of State for Science and Technology, the Premier of New Brunswick and the Provincial Minister of Commerce and Development to sign a five-year agreement for industrial innovation and technology development;

AND WHEREAS the Governor in Council by Order in Council P.C. 1986-1245 of the 28th day of May, 1986, has authorized the Minister of Regional Industrial Expansion and the Minister of State for Science and Technology to execute this Agreement on behalf of Canada;

AND WHEREAS the Lieutenant Governor in Council by Order in Council 86-375 of the 15th day of May, 1986, has authorized the Premier of New Brunswick and the Minister of Commerce and Development to execute this Agreement on behalf of New Brunswick.

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the premises, covenants and agreements herein contained, the parties covenant and agree as follows:





## 1. DEFINITIONS

### 1.1 In this Agreement:

- (a) "Principal Federal Minister" means the Minister of Regional Industrial Expansion and includes anyone authorized to act on his behalf;
- (b) "Federal Ministers" means the Minister of Regional Industrial Expansion and the Minister of State for Science and Technology;
- (c) "Principal Provincial Minister" means the Premier of New Brunswick and includes anyone authorized to act on his behalf;
- (d) "Provincial Implementing Minister" means the Minister of Commerce and Development and includes anyone authorized to act on his behalf;
- (e) "Ministers" means the Federal Ministers, the Principal Provincial Minister and the Provincial Implementing Minister;
- (f) "Management Committee" means the committee referred to in section 5.1;
- (g) "fiscal year" means the period commencing on April 1 of any year and terminating on March 31 of the immediately following year;
- (h) "program" means a principal component of the Agreement containing a class of projects as outlined in Schedule "B";
- (i) "sub-program" means a sub-division of a program which is a principal component of this Agreement as described in Schedule "B";
- (j) "project" means a specific activity forming a self-contained unit within a program or sub-program which is a principal component of this Agreement as described in Schedule "B";





(k) "eligible costs" means reasonable and direct costs incurred on or after April 1, 1986 for the purposes of this Agreement that are:

- (i) invoiced under an arm's length contract made under this Agreement for goods or services; it being understood that contracts approved by the Management Committee involving the New Brunswick Research and Productivity Council or other Crown agencies in which the Province may have some interest shall be deemed arm's length;
- (ii) for personnel not available within the provincial Public Service and contracted by New Brunswick specifically for the purpose of implementing programs and projects under this Agreement; and
- (iii) any other cost which is expressly described as an eligible cost in the Project Authorization Form referred to in section 6.1

but unless expressly permitted shall not include costs which are:

- (iv) any salary or benefits paid by either party to any of its employees, or those of one of its agencies, except as provided under section 1.1(k)(i) and (ii);
- (v) fixed assets which are the property of that party, or any overhead or indirect costs which are incurred by that party or those of one of its agencies;
- (vi) costs of land or costs of acquiring land; and
- (vii) any of the exceptions numbered 1 to 19 inclusive set out in the General Elements of Costs Exclusions attached hereto for reference as Schedule "D".





## 2. PURPOSE, OBJECTIVES AND SUBJECT MATTER

2.1 The purpose of this Agreement is to enable Canada and New Brunswick to:

- (a) undertake the coordinated implementation of those science and technology initiatives which Ministers consider to be of high priority; and
- (b) to provide, in conjunction with the Memorandum of Understanding dated April 13, 1984 respecting science and technology initiatives, for the strategic planning and coordination of the science and technology policies, programs and resources of Canada and New Brunswick and their respective agencies.

2.2 Canada and New Brunswick have agreed that the overall objective of this Agreement is to accelerate the development and application of technology to increase and enhance employment opportunities in New Brunswick. Specifically, this Agreement will help identify and encourage initiatives to:

- (a) improve the competitiveness of existing industry;
- (b) diversify existing industry through the attraction of new ventures to the province, assistance to existing manufacturers to innovate and diversify, and assistance to local entrepreneurs in establishing ventures; and
- (c) increase the in-province capability in technological development, innovation and diffusion in areas of strategic importance to New Brunswick thus creating employment in the research and development industry.





2.3 Schedule "A", entitled Development Context and Strategy, attached to and forming part of this Agreement contains background information and the strategy for achieving the objectives of the subsidiary agreement.

2.4 Schedule "B", entitled Program Description, attached to and forming part of this Agreement contains details of the programs and projects identified for implementation.

2.5 Schedule "C", entitled Summary of Estimated Program Costs, attached to and forming part of this Agreement identifies the federal and provincial contributions to each program.

2.6 Schedule "D", entitled General Elements of Cost Exclusions, attached to and forming part of this Agreement provides a list of specific ineligible expenditures under this Agreement.

2.7 In the implementation of this Agreement all projects shall be reviewed by the Management Committee for consistency with the objectives of this Agreement and the ERDA. All proposals from the Management Committee for amendment to this Agreement shall be reviewed in light of stated objectives.

### 3. FINANCIAL PROVISIONS

3.1 Notwithstanding anything in this Agreement the total contribution payable by Canada under this Agreement shall not exceed twenty million dollars (\$20,000,000).





3.2 Notwithstanding anything in this Agreement the total contribution of New Brunswick under this Agreement shall not exceed eight million five hundred and seventy thousand dollars (\$8,570,000).

3.3 Canada and New Brunswick shall contribute to the eligible costs of projects implemented under the programs listed in Schedule "C".

3.4 Canada and New Brunswick shall cost-share the programs listed in Schedule "C" in the following manner: Canada shall contribute 70 percent of the eligible costs and New Brunswick shall contribute 30 percent of the eligible costs.

#### 4. AMENDMENT

4.1 The Principal Federal Minister, after consultation with the Minister of State for Science and Technology, and the Principal Provincial Minister, after consultation with the Provincial Implementing Minister, may amend the provisions of this Agreement except as expressly set out in section 4.2.

4.2 It is expressly understood and agreed that any amendment to the objectives in section 2.2, or to the financial limitations expressed in sections 3.1 and 3.2, shall require the prior approval of the Governor in Council and the Lieutenant Governor in Council.





## 5. MANAGEMENT AND COORDINATION

5.1 Pursuant to section 6.2.1 of the ERDA, there shall be a Management Committee of four voting members, two of whom are to be appointed by the Federal Ministers, one being designated by the Principal Federal Minister as co-chairperson, and one of whom is to be appointed by the Principal Provincial Minister and designated as co-chairperson and one appointed by the Provincial Implementing Minister, and this Management Committee shall be responsible for the general administration and management of this Agreement. Two non-voting members shall be appointed to the Management Committee pursuant to Section 6.2.2 of the ERDA.

5.2 A voting member of the Management Committee may, in writing, authorize a person to attend and to vote at the meetings of the Management Committee on behalf of that member.

5.3 Decisions of the Management Committee shall be acted upon only if taken unanimously by the four voting members or their designates which shall constitute a quorum for all meetings.

5.4 When there is disagreement by the Management Committee, the Management Committee shall refer to the Principal Federal Minister and the Principal Provincial Minister for resolution.

5.5 The Management Committee shall continue to exist and to operate for as long as is necessary to meet the requirements of this Agreement.





5.6 The powers, duties and functions of the Management Committee are:

- (a) to approve all procedures in respect of its own meetings, including rules for the conduct of meetings and the making of decisions where the members are not physically present in one place;
- (b) to establish eligibility and financial guidelines for funding projects;
- (c) to develop project payment and shared-cost recovery guidelines;
- (d) to review, approve and inspect eligible projects; appropriate Project Authorization Forms as specified in section 6.1 shall be required by the Management Committee before a review is undertaken or approval is given;
- (e) before each fiscal year during which this Agreement is in effect, to prepare a work plan identifying projects in the programs referred to in Schedule "B" to be carried out in the year and by whom, the date by which the Management Committee anticipates that those projects will be completed, and the budgeted amounts to be contributed to eligible costs for each project in the year;
- (f) to approve the establishment of appropriate task groups and advisory and/or review committees, including technical, and public information committees as required, and arranging for the attendance of representatives from other departments, agencies and the private sector at committee meetings where their





- presence could contribute to the effectiveness of the Management Committee;
- (g) to recommend annually to Ministers estimates of proposed expenditures for each fiscal year;
  - (h) to submit progress reports to Ministers prior to the annual meeting of ERDA Ministers referred to in Section 5.1 of the ERDA, or as requested;
  - (i) to develop each year on a quarterly basis, an estimate of actual and anticipated cash flows by year and by program for the purposes of section 6.2.3 of the ERDA;
  - (j) to ensure a full and free flow of information between the parties;
  - (k) where the Management Committee identifies significant human resources implications in respect of any project hereunder, to consider a human resources plan for that project through Canada Employment and Immigration Commission (CEIC) and the New Brunswick Department of Labour and Human Resources which will include employment equity and recruitment of labour as appropriate;
  - (l) to ensure that all contracts incorporate all relevant provisions of this Agreement;
  - (m) to meet at least twice a year for the purposes of this Agreement;
  - (n) to adopt such procedures, forms, reports, and guidelines that are not inconsistent with this Agreement as is deemed expedient and appropriate to achieve its purposes;
  - (o) to meet with representatives of federal and provincial departments or agencies or other appropriate persons to facilitate cooperation and public goodwill in the management of the Agreement;





- (p) to add, amend, or delete any project under this Agreement where it considers that the purposes and objectives of the Agreement would be furthered by that addition, amendment, or deletion;
- (q) to authorize the transfer of funds from one sub-program or project to another sub-program or project within the same program of Schedule "C"; and
- (r) to carry out any other duties, powers or functions specified elsewhere in this Agreement or such as may be assigned to the Management Committee by the Ministers by agreement in writing.

5.7 Canada and New Brunswick shall provide the Management Committee with all information and data necessary for the performance of its function.

5.8 Except as otherwise specified in Schedule "B" of this Agreement or agreed by the Management Committee, New Brunswick shall be responsible for the administrative functions and, under the overall supervision of the Management Committee, for implementing all programs under this Agreement, and shall also ensure the provision of the staff and administrative machinery for the implementation of programs and projects under this Agreement assigned to New Brunswick.

5.9 The Government of Canada shall, through the Department, Ministry and Agencies of the Federal Ministers, further assist in the stimulation of increased private sector activity in the field of industrial innovation and technology development in New Brunswick by encouraging the take-up of programs under this Agreement.



## 6. PROJECT AUTHORIZATION

6.1 Each project approved under this Agreement shall be described in an appropriate Project Authorization Form which shall include the project name and description, the implementing jurisdiction, the purpose and objectives, a schedule of eligible costs, the effective date, an outline of how the project is to be carried out and progress reported, the completion date, performance data to be provided, the identification of term or temporary staff to be employed for the implementation of the project, the total funds required and the share to be borne by each of the parties involved, the ownership and responsibility for the operation and maintenance of the project after completion, arrangements for public information and evaluation, and an indication whether revenue accruing from the project is shareable between Canada and New Brunswick, and if so, in what proportion, and such other information as may be required by the Management Committee.

6.2 Unless otherwise agreed by the Management Committee, all contracts required for the implementation of projects shall be awarded to the lowest bidder pursuant to the public tenders. It is further understood that the selection of all contractors and the announcements of contract awards shall receive the prior approval of the Management Committee.

6.3 Any cost overrun in excess of the eligible costs budgeted or any cost incurred following the approved project completion date shall not be accepted by the Management Committee unless:





- (a) the party implementing the project giving rise to the overrun or delay in completion informed the Management Committee immediately when it became aware that a cost overrun or delay was probable; and
- (b) the Management Committee approved the inclusion of that cost.

6.4 No project shall be approved under this Agreement if, in the opinion of the Management Committee, the project would proceed whether or not the assistance is made available.

## 7. PAYMENT PROCEDURES

7.1 Subject to sections 3.1, 3.2 and 3.3 each party shall be responsible to contribute to its share of eligible costs of projects undertaken under this Agreement.

7.2 Contributions to eligible costs shall be made on the basis of audited progress claims setting out the eligible costs incurred for projects and submitted in a form and verified in a manner satisfactory to Management Committee.

- 7.3 (a) Notwithstanding sections 3.3 and 7.2, in order to assist with the financing the other party may, if the implementing party so requests, make interim payments to the implementing party of one hundred per cent (100%) of the other party's share of the requests submitted, based on estimates of the costs incurred and certified by a senior officer of the implementing party.
- (b) The implementing party shall account for each interim payment by submitting to the other party, within the quarter following the quarter in which the payment was





made by the other party, a detailed statement of the actual costs incurred, verified in a manner satisfactory to the Management Committee.

- (c) No interim payment shall be made in a fiscal year until any interim payments made in the previous year have been accounted for by claims for expenditures actually incurred, certified by a senior officer of the implementing party and bearing an audit certificate, and any outstanding balance of the payment has been repaid or accounted for in a mutually agreed manner and form.
- (d) Canada, however, will not make interim payments to the Province of New Brunswick for New Brunswick's share of jointly delivered projects.

7.4 The implementing party shall maintain proper and accurate accounts and records relating to the costs of projects undertaken pursuant to this Agreement, and shall upon reasonable notice make such accounts and records available at all reasonable times for inspection and audit by the other party for projects under the programs of Schedule "B".

7.5 Any discrepancy indicated by an audit between the amounts paid by each of the parties in respect of a project and the amounts payable by them hereunder shall be promptly adjusted.

7.6 For each fiscal year of this Agreement, the Management Committee shall ensure that the implementing party shall submit to the other party a statement of eligible costs incurred on all projects delivered by it under this Agreement.



7.7 The final date for approval of projects under this Agreement shall be March 31, 1991. No project completion date shall extend beyond March 31, 1992, and no claim shall be paid by the parties unless it is received by March 31, 1993.

7.8 Notwithstanding section 7.7, this Agreement may be terminated at the end of any fiscal year following the expiration of at least three years from the date of execution hereof, by either party giving to the other at least two clear fiscal years' notice in writing thereof. Any project which has not been completed on the date of expiry of the notice period referred to in this section shall continue until completion.

## 8. PUBLIC INFORMATION

8.1 Parties to the Agreement agree to cooperate in public information activities in both official languages for actions undertaken through programs listed in Schedule "B". They shall be guided by the principles that all interested persons should be kept informed, that the contributions of both parties should be fairly acknowledged, and that both parties should have a fair opportunity to participate. To this end, application forms, letters of offer, press releases and other like correspondence and announcements shall clearly indicate, through appropriate logos or otherwise, the participation of both the federal and provincial government and/or the departments of the Ministers.

8.2 The Management Committee shall develop and implement a communications strategy and public information program in accordance with section 7.1 of the ERDA and shall be responsible for the review and management thereof.





8.3 Where construction or related activities are involved with respect to a capital project or with respect to a project involving incentive assistance, the parties shall, on the direction of the Management Committee:

- (a) supply, erect and maintain, during the course of construction or related activities, signs consistent with federal-provincial identity graphics guidelines, in both official languages. These shall be erected at the discretion of the Management Committee after commencement of the project, specifying that the relevant project is a Canada-New Brunswick Development Project, financed by contributions from the Department of Regional Industrial Expansion and the Province of New Brunswick, or such other wording to the like effect as may be agreed to by the Ministers; and
- (b) where relevant, upon completion of each project, to supply, erect and maintain a permanent sign or plaque to that effect.

8.4 For projects hereunder, announcements, official opening ceremonies, release of reports and other public information activities shall be arranged jointly by the co-chairpersons of the Management Committee.

## 9. EVALUATION

9.1 The Management Committee of this Agreement shall develop an evaluation framework within 12 months of the execution of the Agreement to document the objectives, activities and intended impacts/effects of the Agreement, to identify the likely evaluation issues and data collection requirements, to identify the need for periodic progress reporting on projects, and to establish an evaluation plan.





9.2 Canada and New Brunswick shall provide each other with all the relevant information and data as may be reasonably required for any evaluation that pertains to this Agreement.

9.3 Within 12 months prior to the termination date of the Agreement, the Management Committee will consider the evaluation framework and the data and information generated, in order to determine the potential need for a comprehensive evaluation of the Agreement.

9.4 Any evaluation activity pertaining to this Agreement shall be funded as determined by the Management Committee.

#### 10. GENERAL

10.1 No member of the House of Commons of Canada or the Legislative Assembly of the Province of New Brunswick shall be admitted to any share or part of this Agreement or to any benefit arising therefrom.

10.2 Where one party hereto is responsible for the implementation of a project, it shall indemnify and save harmless the other party, its officers, servants and agents, against all claims and demands of third parties in any way arising out of the implementation of such initiative, except to the extent to which such claims or demands relate to the act or negligence of any officer, employee, or agent of the other party. Where the ongoing responsibility for the operation, maintenance and repair of any project hereunder is to be vested in a third party, the contractual arrangements made between the implementing party and the said third party shall provide a clause in order to save the parties harmless from any claims, demands, actions, and causes of



action which may be made against them arising out of the operation, maintenance and repair of any such project by the third party.

10.3 Canadian goods and services shall be used in carrying out any project hereunder to the full extent to which they are procurable, competitive and allow for the expeditious performance of the projects.

10.4 The provision of contributions by Canada and New Brunswick for the implementation of this Agreement is subject to the Parliament of Canada and the Legislative Assembly of New Brunswick having appropriated funds for such financing in the fiscal year in which it is required.

10.5 Any unresolved dispute between the parties hereto on any question of law or fact arising out of this Agreement shall be submitted to and determined by the Federal Court of Canada pursuant to the Federal Court Act.

10.6 This document, including Schedules "A", "B", "C", and "D" form the entire Agreement.

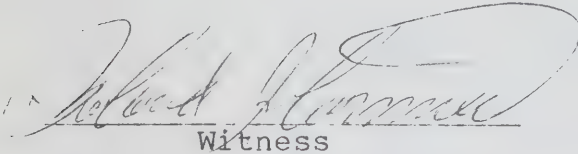





IN WITNESS WHEREOF this Agreement has been executed on behalf of Canada by the Minister of Regional Industrial Expansion and the Minister of State for Science and Technology and on behalf of the Province of New Brunswick by the Premier and the Minister of Commerce and Development.

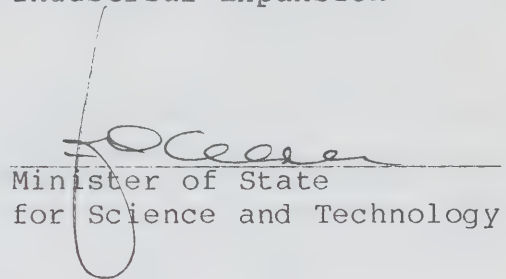
IN THE PRESENCE OF:

GOVERNMENT OF CANADA

  
Witness

  
for Minister of Regional  
Industrial Expansion

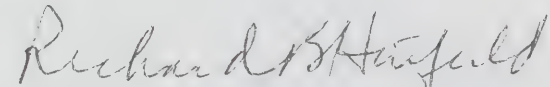
  
Witness

  
Minister of State  
for Science and Technology


IN THE PRESENCE OF:

GOVERNMENT OF THE PROVINCE OF  
NEW BRUNSWICK

  
Witness

  
Premier of New Brunswick

  
Witness

  
Minister of Commerce and  
Development



## SCHEDULE "A"

### DEVELOPMENT CONTEXT AND STRATEGY

#### Introduction

The Government of Canada and the Province of New Brunswick have assigned a high priority to industrial innovation and technology development as a means of stimulating industrial growth in New Brunswick. The signing of an Economic and Regional Development Agreement (ERDA) on April 13, 1984, had established the foundation to facilitate cooperation between the two levels of government in the implementation of measures for the economic and regional development of New Brunswick. Pursuant to this Agreement, Canada and the Province signed a Memorandum of Understanding and a Course of Action for 1984-85 confirming their commitment to jointly identify those science and technology areas which have the greatest priority for the attainment of New Brunswick's economic development goals, which could include a subsidiary agreement to advance certain high priority initiatives. The ERDA Ministers' Course of Action for 1985-86 has called upon the Federal Minister of Regional Industrial Expansion, the Federal Minister of State for Science and Technology, the Premier of New Brunswick and the Provincial Minister of Commerce and Development to sign a five-year agreement for industrial innovation and technology development.

As a means of identifying high priority areas, a Science and Technology study was conducted concurrently under the Canada/New Brunswick Planning Subsidiary Agreement. It is intended that this Agreement will implement those recommendations of the study which best serve the economic and development goals of New Brunswick. In addition, other initiatives not recommended by the study but deemed important for the achievement of the development goals of New Brunswick have been included.

#### Development Context

Since the nineteen sixties, the contribution of technological innovation and diffusion toward the general improvement in productivity performance has received a great deal of worldwide attention and its significance for economic growth has been increasingly recognized. From an international trade perspective, technological advance leads to improved productivity and competitiveness and may contribute to both an increase in employment opportunities and to a country's share of trade. At the plant and/or industry level, new technology has led to increased productivity, lower costs of production, new products/processes, as well as increased sales and profits. From a regional viewpoint, the development and introduction of new technologies can lead to modernization of the industrial base, increased diversification, improved income and employment opportunities, a more equitable distribution of the benefits of economic development, and a subsequent reduction in economic disparities.

Specific development context factors which must be addressed by this Agreement are:

- New Brunswick's population base of some 700,000 people and its business community, particularly the manufacturing and processing sector, are comparatively small.





- Economic and industrial development opportunities for New Brunswick vary widely among economic sectors, for different types of businesses, and for different geographic areas.
- The New Brunswick economy relies heavily upon the resource-based industries and export trade. With the exception of the mining industry, resource supply now constrains a further large expansion in output.
- For the non resource-based industries, the size of the regional market and distance to broader markets, as well as the transportation costs and market barriers which impede access to larger markets have sometimes resulted in small scale, locally-oriented operations.
- Research and development expenditures in Canada are relatively low compared to its major OECD trading partners. In New Brunswick in 1982, 0.8% of the Gross Domestic Expenditure was spent on R&D compared to 1.5% for Canada and over 2% for OECD countries. This represents \$213 per employee compared to \$431 for Canada as a whole. In addition, private sector R&D represents 10% of the total R&D within New Brunswick, compared to 41% for Canada.
- Public and private science and technology resources in a number of key areas such as engineering, forestry, marine science, computer science, energy and minerals are strong and are perceived as such by companies and institutions both inside and outside the province.
- New Brunswick's science and technology resources are sometimes fragmented and inadequate networking makes it easier for some companies to go outside the province for technical advice than through a provincial network.
- Many companies lack familiarity with the province's science and technology resources and perceive them as having an excessive academic inclination and therefore not necessarily responsive to their needs. This perception has hampered the critical role that the province's science and technology resources should play in promoting economic development.
- Science and technology resources have not always enjoyed consistent or stable support from government or from the private sector. An improved climate of support is also important to increase the energies devoted to meeting technology and development objectives.

To address these factors, the Agreement must respond in the following ways:



- Initiatives must be tailored to reflect the relatively small size of most businesses and the limited financial resources of the province.
- Science and technology initiatives generally need to be driven by economic and industrial development priorities, and management strategies need to reflect this.
- In traditional resource-based industries, initiatives are required for the application of new and best-practice technologies in order to enhance competitiveness and retain and expand markets, both nationally and internationally.
- In non resource-based industries, diversification linked to technological advancements offers the best avenue to further growth. Initiatives must be developed to stimulate local entrepreneurs to establish and expand new and advanced technology enterprises. Manufacturing and business service firms based upon emerging technologies and capable of serving national and international markets must be attracted into the province.
- Overall, applied R&D expenditures need to be increased in New Brunswick and government expenditures need to be leveraged more effectively to achieve improved performance in technology development and application.
- The province's strategic technology strengths should be built on.
- There is a need for clearer focal points and improved coordination and networking in the management of the province's science and technology resources.
- Science and technology resources should also be better linked to other centres of excellence outside the province.
- Initiatives need to be both pragmatic and responsive to private sector needs and must attempt to strengthen the liaison between universities, research organizations and the private sector.
- Strong leadership, vigorous private/public partnership and stable support will be required to take better advantage of existing science and technology resources and opportunities.

## STRATEGY

Overall Objective: The overall objective is to accelerate the development and application of technology to increase and enhance employment opportunities in New Brunswick.

Strategic Approach: A three-part strategic approach to achieving the overall objective will be utilized.





- I. The competitiveness of existing industry will be improved through technology transfer by:
  - (a) Increasing industry awareness and knowledge of best-practice technologies by:
    - creating a capacity for information acquisition and dissemination
    - bringing expertise and industrial shows into the province
    - sending firms on technology missions and to industrial shows.
  - (b) Helping industry acquire best-practice technologies through:
    - financial support for technology audit and purchase
    - financial and technical support for new technology development within the province.
- II. The industrial base will be diversified by:
  - (a) Assisting local entrepreneurs, firms and innovators to expand, diversify and innovate through:
    - creation of a capacity to provide advice and technical assistance for development of new products and new processes
    - financial assistance for prototype development, demonstrations, first-user risk reduction and bridge financing
    - financial assistance to establish, expand or modernize technology-based industries where programs are inadequate or nonexistent.
  - (b) Attracting new technology-based enterprises by:
    - financial assistance
    - providing a receptive climate with easy access to financial and technological assistance.
- III. The in-province capability in technological development and innovation will be increased by:
  - creating task groups to identify and prioritize strategic areas for development and assistance
  - providing financial support for strategic applied R&D
  - providing financing support for equipment, space and staff to pursue strategic applied R&D.

This overall strategic framework has evolved from a thorough examination of strengths and weaknesses, needs and opportunities for science and technology development within



New Brunswick. It is based upon considerable consultation with the private sector, the academic community, government officials, applied technology centres and research organizations in the province. It supports the primary industrial development thrust in New Brunswick to strengthen, expand and diversify the industrial base. The programming envisaged is intended to complement assistance available through other programs. It focuses on the stimulation of economic growth by encouraging the development and adoption of new technology in New Brunswick industry.





## SCHEDULE "B"

### PROGRAM DESCRIPTIONS

#### Introduction

The measures noted in Schedule "A" are to be addressed through four broad programs and related sub-programs. They are designed to build upon existing and emerging strengths in the province, to take advantage of resources from within and from outside the province, to maximize private sector participation in the development and implementation stages of this Agreement, to harmonize federal-provincial efforts and programs for the development and application of technology in the province and to complement and reinforce existing programs.

The four broad program areas which provide for measures complementary to existing programs, are:

1. Support and strengthen strategic technology resources.
  - (a) Opportunity identification and priorities.
  - (b) Public sector sponsored applied R&D.
  - (c) Applied technology infrastructure.
2. Create a climate for innovation and the development of technology-based industries and for the adoption of new technology in the province.
  - (a) Technology venture initiative (T.V.I.).
  - (b) Technology information transfer.
3. Provide direct financial support to the private sector.
  - (a) Complementary financial support.
  - (b) Technical audits, entrepreneurial visits and studies.
4. Improve planning and coordination of current and new initiatives.

The achievement of the overall objective of this Agreement will require emphasis on private sector support. Clearly, this can be derived from improvements to traditional industry as well as new types of industry. A reasonable division of effort must be maintained between the scientific and technological needs of the province's traditional industries and those of newer, non-traditional fields which can contribute to industrial diversification.

New Brunswick has strength in industrial areas such as forestry and forest products, minerals and materials, fisheries and aquaculture, agriculture and food technology. The programs under this Agreement, however, do not attempt to target specific sectors of industry for pre-determined levels of funding support. Indeed, new technology fields may well become important to the province's economic development which are not foreseen at this time. This Agreement provides for ongoing review of proposals, sectors and fields of interest so that informed and effective choices can be made among various potential initiatives over the Agreement's life.



Initiatives proposed under these programs will be assessed as to their relative overall prospects with respect to criteria, including among others:

- their potential economic development impact on the province;
- the degree of their impact on the private sector, both in terms of directness and timing;
- the extent to which provincial capability in strategic areas of science and technology is enhanced;
- the degree to which they will lead to viable self-sustaining types of activity rather than on-going requirements for continued financial support;
- the availability, applicability and/or the adequacy of programs under other subsidiary agreements or other federal and provincial programming.

#### PROGRAM 1 STRATEGIC TECHNOLOGY SUPPORT

##### Description

The purpose of this program is to support and strengthen strategic technology resources and capability and to enhance technology transfer in the province as a means of stimulating economic growth. It includes the following sub-programs:

- opportunity identification and prioritization;
- public-sector sponsored applied R&D; and
- applied technology infrastructure.

In order to maximize the effectiveness of available resources and to ensure that applied research is responsive to the needs of industry, the private sector and other key participants, e.g., research organizations, governments and the academic community, may be jointly involved in the identification of opportunities and prioritization of initiatives and may also be involved as participants in applied research and development in identified strategic areas.

##### Rationale

The province currently has strategic technology strengths in the area of manufacturing technology, forestry, marine science, geo-based data system and materials. Applied research capability rests largely with organizations such as CADMI, MTC, RPC, the Maritime Forest Research Centre, marine institutes and universities. There is a need to carefully identify and prioritize specific initiatives in strategic areas and to support applied research and development in these areas in order to ensure that opportunities which offer the most significant economic potential are pursued. The creation of Task Groups will help forge closer links among key participants. Improvements in applied technology infrastructure are also required. Building on existing strengths and increasing the impact of applied research and technology transfer are optimal ways of ensuring maximum effectiveness of public expenditures.





## Expected Benefits

It is expected that this program will increase the level of R&D expenditures and technology transfers both in applied technology centres and the private sector. It will also increase private sector awareness of the province's key technology strengths and involve it in the prioritization process and the establishment of strategic objectives, targets and action plans with other key players. These, together with an improved R&D infrastructure, would serve to increase investment, output and employment.

### 1.1 OPPORTUNITY IDENTIFICATION AND PRIORIZATION

#### Description

This sub-program is designed to assist in identifying and prioritizing key technology strengths and opportunities and in determining the most appropriate means and levels of public sector support. Support would be given for the establishment of Task Groups bringing together interests from all relevant sectors in specific areas of strategic significance to New Brunswick as determined by the Management Committee. These Task Groups may also be involved in promoting implementation of their recommendations.

Task Groups could be established, for example, in the areas of manufacturing and management technology development, forestry and forest products development, minerals and materials technology development, and fisheries, food and aquaculture technology development. The potential application of biotechnology to some of these areas would also be important.

The process involved in establishing and carrying out Task Group studies could be as follows:

- an expert in the given field would be identified as Task Group chairperson and would be responsible for the animation of the Task Group process;
- terms of reference for the Task Group would be drafted;
- the most promising activities, participants, modes of participation, and funding sources and levels would be tested in terms of economic development potential and varying needs in different regions of the province;
- a final assessment of return on investment, economic benefits and business participation would be used to prioritize activities; and
- recommendations would be put forward to the Management Committee.

Recommendations emerging from Task Group studies might embrace:

- coordinated action plans for specific strategic technologies;



- proposals for Memoranda of Understanding between governments, industry associations and institutions or firms;
- proposals for increasing the effectiveness of the province's applied technology centres, including, for example, new management or networking models; and
- proposals for direct financial support of specific strategic technology and infrastructure development initiatives in the private sector or applied technology centres, or other areas under this Agreement or other agreements, programs and services.

#### Implementation

Implementation of this sub-program will be determined by the Management Committee on a case-by-case basis.

### 1.2 PUBLIC SECTOR SPONSORED APPLIED R&D

#### Description

This sub-program is designed to fund research and development in applied science and technology which build on the province's technological strengths. Funding will be made available in areas and by means identified in sub-program 1.1 or which are otherwise judged by the Management Committee to be strategic to the economic development of New Brunswick.

Proposals will be considered from provincial and federal government R&D performers and universities potentially involving private R&D performers, associations, cooperatives, individuals or other organizations. Projects under this sub-program will normally be awarded to a private sector consultant or R&D firm, a university or an applied technology centre. This sub-program can provide financial assistance for projects which are mainly of public interest as well as cost-sharing in cooperative projects which are also of interest to private sector firms, groups of firms or associations where the results will not be confidential. While funding under this sub-program would normally be complementary to that available under existing programs, complete funding for specific applied research projects will also be considered. Special consideration will be given to the emerging needs of the New Brunswick Research and Productivity Council.

Where a project under this sub-program falls within the mandate of the Natural Sciences and Engineering Research Council or other federal and provincial agencies providing support for university level research work, the sub-program may only complement that support.

#### Implementation

Implementation of this sub-program will be determined by the Management Committee on a case-by-case basis.





### 1.3 APPLIED TECHNOLOGY INFRASTRUCTURE

#### Description

This sub-program is designed to build in-province capacity to undertake applied R&D and to facilitate technology transfer through the provision of funding to applied technology organizations (universities, research centres or institutes), private sector R&D performers for acquisition of strategic staff, equipment or space to permit their performing applied R&D for approved projects or in strategic fields which are public or private priority areas identified under sub-program 1.1, and also to enhance the ability of these organizations to provide information and facilitate technology transfer in these fields, including management science and technology. The goal of this program is to develop applied R&D capabilities within New Brunswick in strategic high-technology fields. Special consideration might be given to the emerging needs of CADMI, MTC, the Peat Research and Development Centre, the New Brunswick Research and Productivity Council and firms requiring advanced system support. This sub-program may also provide for the establishment, in special circumstances, of private sector R&D facilities that will broaden science and technology capability in New Brunswick.

Where a proposal under this sub-program falls within the mandate of the Natural Sciences and Engineering Research Council or other federal and provincial agencies providing support for university level research work, the sub-program may only complement that support.

#### Implementation

Implementation of the sub-program will be determined by the Management Committee on a case-by-case basis.

### PROGRAM 2 INNOVATION CLIMATE

#### Description

The purpose of this program is to support the creation of a climate which encourages entrepreneurship and innovation and stimulates technology development and application within New Brunswick. Two new technology services will be created:

- Technology venture initiative
- Technology information transfer network.

The first will provide advice to entrepreneurs and innovators in response to proposed product/process development or improvement and business proposals. The incubation centre concept will also be tested. The second will serve to increase information access, dissemination and networking.

#### Rationale

There is a gap in the support available to new technology start-up or the development of new/improved products or processes. There is a need for a service which can assess inventions and ideas and assist potential entrepreneurs to access business planning and marketing expertise and to identify and establish contacts with sources of financing. The technology venture initiative is intended to fill this gap.



New Brunswick firms tend to be lacking in familiarity with and commercial application of new technologies compared with firms in the more industrialized parts of the country. Thus, there is a critical need to increase the awareness and accessibility of information on new technologies to potential users. The system for intelligence collection and information dissemination has to be greatly improved. The technology information transfer network is directed at this need.

### Expected Benefits

It is expected that the successful implementation of this program will stimulate entrepreneurship and innovation and raise the level of knowledge and awareness of opportunities related to industrial innovation and technology development and application. Better networking among applied technology centres in and outside the province and increased use of these centres by the private sector would also be expected. The resulting improvement in technology transfer should lead to the development of new or improved products and processes, improved productivity and new investment.

## 2.1 TECHNOLOGY VENTURE INITIATIVE

### Description

This sub-program is designed to improve the climate for innovation within New Brunswick by providing a packaged service to help business firms establish, launch new ideas, and better access a range of seed and venture capital sources. Two initiatives will be undertaken.

The first is the creation of the Technology venture initiative (T.V.I.). It will serve as a focal point to marshal public, institutional and private sector resources to support entrepreneurs and innovators in commercialization of new technologies and products. Consisting of several contract staff (manager and staff with expertise in finance, marketing, and technology), the independently managed T.V.I. will be a "catalyst" and "sounding board" for proposed business ventures (new firms and/or expansions into new products, processes or services). The mandate of the T.V.I. will be to:

- (i) evaluate or arrange for the evaluation of new technological innovations, products and proposals, as to their technical feasibility, market potential and financial feasibility;
- (ii) advise and refer innovators, entrepreneurs and companies on developing business plans and marketing strategies and accessing available financial and technical assistance programs;
- (iii) establish networks with investment groups and financial entities and expose to them new technology investment opportunities;
- (iv) recommend technology demonstrations;
- (v) hold regular seminars and workshops with new entrepreneurs as a means to critique proposals; and
- (vi) expedite promising proposals.





The second initiative under this sub-program will be the funding, on a pilot basis, of one new venture incubation centre. This pilot facility will provide assistance to new technology-based start-up firms through shared services in a common facility. Shared services offered can include low-cost appropriate space, secretarial, clerical, bookkeeping, and the advice of an experienced facility manager. Consideration will be given to operating the facility in close cooperation with the T.V.I., locating it in an area of existing concentration of expertise, and utilizing an existing building.

#### Implementation

This sub-program will be implemented by the Province of New Brunswick.

### 2.2 TECHNOLOGY INFORMATION TRANSFER

#### Description

This sub-program is designed to improve technology monitoring, forecasting and networking within the province so that all parties have better access to current scientific and technological information. Funding will be made available through a third-party contract to provide a coordinated approach to intelligence collection, awareness promotion and information dissemination with respect to up-to-date scientific information and its application to New Brunswick. Specific funding would also be provided to establish a network of technological information and expertise accessible to entrepreneurs, innovators and researchers. The network may consist of hotlines, referral services, teleconferencing linkages, electronic information services, seminars, workshops, and referral services. Participants in the network could include businesses, Regional Industrial Commissions, industry associations, the New Brunswick Research and Productivity Council, the National Research Council, T.V.I., universities and other relevant organizations or data banks from within and outside the province. It is anticipated that the New Brunswick Research and Productivity Council and each provincial university will play a major role in the creation of this technology information transfer network.

#### Implementation

This sub-program will be implemented by the Province of New Brunswick.

### PROGRAM 3 DIRECT SUPPORT TO PRIVATE SECTOR

#### Description

This program is designed to provide financial assistance directly to private firms, individuals or industry associations which are technology-based or facing issues which are technological in nature. This special assistance is intended to be complementary to that generally available to firms under other established programs.

It includes the following sub-programs:

- Complementary Financial Support
- Technical Audits, Entrepreneurial Visits, and Studies.



In addition, provision is made in this program to engage contract staff, including related direct expenses, essential to assist in the delivery of the program.

### Rationale

There exists a number of federal and provincial programs which provide assistance for industrial innovation and technology development, but most of these programs are inadequate at the early stage of the innovation process and others only provide assistance after expenses have been incurred and funds expended. There is a critical need for assistance to fill a gap from the time of the initial idea to the point where the product can be commercially produced. There are other situations in which innovators/inventors have proceeded most of the way but need extra support to carry concepts to completion.

There are also situations where complementary assistance will be necessary to ensure implementation of high-priority private sector proposals which are strategic in terms of their impact on industrial diversification and economic development.

Established and prospective firms may be expected to benefit from the improved awareness, advice, and assessment provided by technical missions, studies, reviews of operating practices, demonstrations, etc., which will be available through this program.

### Expected Benefits

It is expected that this program will increase the level of applied research and development, the number of new inventions which will become commercially exploited and the number of technology-based industries in the province. This in turn should have a positive impact on investment, output and employment.

## 3.1 COMPLEMENTARY FINANCIAL SUPPORT

### Description

This sub-program is designed to provide special assistance to the private sector to assist in research and development of new products, processes or services involving advanced technology including any pre-commercial production steps in the investment and development process, as well as lessening hurdles to full commercialization.

It will complement assistance available from other sources and will consist of assistance for costs, or for projects which are ineligible under other assistance programs such as IRDP, SIFAP, IRAP, etc. It will be available to eligible applicants operating or planning to establish within New Brunswick. Types of financial assistance to be provided under this sub-program would include:

- repayable, interest free contributions to newly formed and established firms and entrepreneurs at the early stages of the innovation process to alleviate shortages of funds necessary to launch or continue an eligible research and development project. Contributions would be repayable on the basis of achievement and would not affect the total level of support which might be made available through other programs;





- non-repayable contributions to firms and entrepreneurs to assist in the demonstration of a new or improved product/process once technical feasibility has been determined and a prototype developed. This would include support for the operation of pilot or demonstration projects for the purpose of attracting investors, producers, and/or users;
- non-repayable contributions to a New Brunswick producer or innovator for the introduction of a new, untested product or process which is produced/developed in the province and being presented to a first user who perceives a significant risk in its adoption;
- complementary non-repayable contributions to firms and entrepreneurs to cover costs otherwise ineligible under other programs for applied R&D, prototype development, start-ups, expansion or modernizations involving new or improved products, processes or services in the field of advanced technology.

#### Implementation

This program will be implemented by the Province of New Brunswick.

### 3.2 TECHNICAL AUDITS, ENTREPRENEURIAL VISITS AND STUDIES

#### Description

This sub-program is designed to assist private firms, entrepreneurs or industry associations in identifying and assessing appropriate or best-practice technologies for installation in their operations. To accomplish this, many New Brunswick firms will increasingly have to look beyond provincial borders for most of their technological needs. Improving productivity, remaining competitive, retaining existing markets and effectively penetrating national and international markets will increasingly require industries to accelerate the adoption of new and best-practice technologies.

This sub-program will provide financial assistance:

- to facilitate entrepreneurial visits to places where these technologies are currently being used or demonstrated, such as industrial shows, plant sites and/or seminars;
- to defray part of the cost to individual firms, entrepreneurs, groups of firms and industrial associations of bringing technical experts into the province for seminars and demonstration projects; and
- to defray part of the cost for technical audits and/or to acquire the assistance of a knowledgeable third party to provide an objective assessment and advise on best technologies for their operations.



### Implementation

This sub-program will be implemented by the Province of New Brunswick.

## PROGRAM 4 PLANNING, COORDINATION AND IMPLEMENTATION

### Description

This program is intended to provide funding for the following activities:

- public information, evaluation, audit and other administrative costs associated with this Agreement; and
- public sector planning and feasibility studies in support of initiatives under this Agreement, including those relating to the socio-economic impact of technological change so that labour market harmony and human resource development requirements can be properly addressed.

### Implementation

Implementation of this sub-program will be determined by the Management Committee on a case-by-case basis.





SCHEDULE "C"

SUMMARY OF ESTIMATED COSTS 1986 TO 1991

<u>PROGRAMS</u>	<u>Cost Sharing Ratio</u>	<u>Estimated Cost \$ Millions</u>		
		<u>Total</u>	<u>Federal</u>	<u>Provincial</u>
1. Strategic Technology Support	70:30	15.00	10.50	4.50
2. Innovation Climate	70:30	4.51	3.16	1.35
3. Direct Support to Private Sector	70:30	7.06	4.94	2.12
4. Planning, Coordination and Implementation	70:30	2.00	1.40	0.60
TOTAL	70:30	28.57	20.00	8.57



## SCHEDULE "D"

### GENERAL ELEMENTS OF COSTS EXCLUSIONS

The following shall not be included as an eligible cost when calculating an incentive to be paid under this Agreement unless otherwise specified in the program criteria of this Agreement.

1. Allowance for interest on invested capital, bonds, debentures, bank or other loans.
  - \*2. Entertainment expenses.
  - \*3. Dues and other memberships other than regular trade associations.
  4. Donations except administrative expenses including salaries of corporate executive officers, office salaries, janitors, cleaners, miscellaneous office and administrative expenses, such as stationery and office supplies, postage, reasonable donations to cities and other necessary office expenses.
  5. Losses on other contracts.
  6. Depreciation on buildings, machinery or equipment paid for by the Crown.
  7. Fines and penalties.
  8. Amortization of unrealized appreciation of value of assets.
  9. Expenses, maintenance and/or depreciation of excess facilities.
  10. Increase in reserves for contingencies, repairs, compensation insurance and guaranteed work.
  11. Federal and Provincial income, excess profits or surtaxes and/or any special expenses in connection therewith.
  12. Unreasonable compensation for officers and employees.
  13. Bond discount or finance charges.
  14. Premiums for life insurance on the lives of officers.
  15. Legal and accounting fees in connection with reorganization, security issues, capital stock issues or the prosecution of claims of any kind against the Crown.
  16. Losses on investments, bad debts and expenses of collection.
  17. Advertising, except reasonable advertising of an industrial or institutional character placed in trade or technical journals of value for the dissemination of trade and technical information for the industry.
  18. Selling expenses.
  - \*19. Fees, extraordinary or abnormal, for professional advice in regard to technical, administrative or accounting matters, unless prior approval from the Crown has been obtained.
- \* Except where the activity involves foreign travel.













